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Matthias Hessling

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EXAMINER

AJIBADE AKONAI, OLUMIDE

ART UNIT

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2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,419	Applicant(s) HESSLING ET AL.	
	Examiner OLUMIDE T. AJIBADE AKONAI	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-21, 24-28, 34 and 35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-21, 24-28, 34 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/10/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed December 18 2009 have been fully considered but they are not persuasive. Regarding claims 24 and 26, the applicants' representative asserts that Joshi fails to disclose a point set of equidistant points. The examiner respectfully disagrees. Joshi discloses fixed intervals along the vehicle trajectory and the map paths in the map database, and calculating the SAVC value at the fixed intervals in order to determine a match between the vehicle trajectory and map database (col. 7, lines 19-29). Therefore, the fixed intervals along the vehicle trajectory and the points on map paths in the map database that match the fixed intervals read on the applicants' limitation of "a point set of equidistant points of the linear object and of objects of a traffic route network". The applicant also asserts that Joshi fails to disclose "spacing" and "point sets" as disclosed in claims 24 and 26, and hence fails to disclose decoding the relative position in which the number is greatest. The examiner respectfully disagrees. Joshi discloses at the fixed intervals along the vehicle trajectory, and the map paths in the map database, the SAVC value at those intervals are computed and a match is made if a low SAVC is determined, indicating a match (or that the vehicle trajectory at fixed intervals are close/within a spacing of at least a map path in the map database) between the vehicle trajectory points at the fixed intervals (sampled road segment) and the map paths in the map database that match those intervals (ground truth road segment) (col. 7, lines 19-29). The examiner thus maintains that Joshi discloses the claimed limitation of "decoding" by "outputting the part of the

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traffic route network then correlated with the object". Claims 16-21, 24-28, 34 and 35 thus stand rejected.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 20, 21, 24, 25-28, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' Admitted Prior Art (hereinafter AAPA) in view of Rauhala 6,680,919 and Joshi 6,571,173.

Regarding **claim 24**, AAPA discloses a method for transmitting location-related information from a transmitter to a receiver, the method comprising: including the location-related information in a digital map of the receiver (see page 1 of the applicants' specification, lines 6-10), wherein the location-related information is made up of linear objects (see page 1 of the applicants' specification, lines 6-10).

AAPA fails to disclose downloading the location-related information from an Internet page.

Rauhala however discloses downloading location-related information from the internet to a communication device that has a transmitter and receiver (MCT 10 with transceiver 20, downloading map data from the internet, see fig. 1, col. 3, lines 7-10, 43-57, col. 4, lines 1-23 and lines 52-67).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Rauhala by downloading location data via the internet, into the system of the AAPA for the benefit of updating a digital map in a communication device.

AAPA as modified by Rauhala fails to disclose for decoding, a point set of equidistant points of the linear object and of objects of a traffic route network is formed; and for a plurality of relative positions of the point sets in relation to each other, the number of points which lie within a predetermined spacing of at least one point of the

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other point set is determined for one of the point sets, and the object to be decoded is decoded in the relative position in which the number is greatest by outputting the part of the traffic route network then correlated with the object.

Joshi, however, discloses for decoding, a point set of equidistant points of the linear object and of objects of a traffic route network is formed (creating a plurality of tangent vectors along the space curves representing a ground truth road segment and a sampled road segment, see figs. 2 and 15, col. 4, lines 66-67, col. 5, lines 1-19, and col. 7, lines 30-50); and for a plurality of relative positions of the point sets in relation to each other, the number of points which lie within a predetermined spacing of at least one point of the other point set is determined for one of the point sets, and the object to be decoded is decoded in the relative position in which the number is greatest by outputting the part of the traffic route network then correlated with the object (calculating the SAVC such that the SAVC value is used for map-matching, wherein a low SAVC is used to detect/determine that the sampled road segment is a part of the ground truth road segment, see col. 5, lines 31-47, col. 6, lines 32-57, col. 7, lines 19-29, and col. 8, lines 9-17).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Joshi by using the SAVC to compare and determine that a particular/current route of a device is similar to part of route previously stored in the device, into the system of AAPA as modified by Rauhala for the benefit of efficiently determining a current route of a communications device.

Regarding **claim 26**, AAPA discloses a navigation device comprising: a digital road map (see page 1 of the applicants' specification, lines 6-10); and a receiving arrangement to receive location-related information which can be included in the digital road map (see page 1 of the applicants' specification, lines 6-10), wherein: the location-related information is made up of linear objects (see page 1 of the applicants' specification, lines 6-10).

The AAPA fails to disclose downloading the location-related information from an Internet page.

Rauhala however discloses downloading location-related information from the internet to a communication device that has a transmitter and receiver (MCT 10 with transceiver 20, downloading map data from the internet, see fig. 1, col. 3, lines 7-10, 43-57, col. 4, lines 1-23 and lines 52-67).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Rauhala by downloading location data via the internet, into the system of the AAPA for the benefit of updating a digital map in a communication device.

AAPA as modified by Rauhala fails to disclose for decoding, a point set of equidistant points of the linear object and of objects of a traffic route network is formed; and for a plurality of relative positions of the point sets in relation to each other, the number of points which lie within a predetermined spacing of at least one point of the other point set is determined for one of the point sets, and the object to be decoded is

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decoded in the relative position in which the number is greatest by outputting the part of the traffic route network then correlated with the object.

Joshi, however, discloses for decoding, a point set of equidistant points of the linear object and of objects of a traffic route network is formed (creating a plurality of tangent vectors along the space curves representing a ground truth road segment and a sampled road segment, see figs. 2 and 15, col. 4, lines 66-67, col. 5, lines 1-1-19, and col. 7, lines 30-50); and for a plurality of relative positions of the point sets in relation to each other, the number of points which lie within a predetermined spacing of at least one point of the other point set is determined for one of the point sets, and the object to be decoded is decoded in the relative position in which the number is greatest by outputting the part of the traffic route network then correlated with the object (calculating the SAVC such that the SAVC value is used for map-matching, wherein a low SAVC is used to detect/determine that the sampled road segment is a part of the ground truth road segment, see col. 5, lines 31-47, col. 6, lines 32-57, col. 7, lines 19-29, and col. 8, lines 9-17).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Joshi by using the SAVC to compare and determine that a particular/current route of a device is similar to part of route previously stored in the device, into the system of AAPA as modified by Rauhala for the benefit of efficiently determining a current route of a communications device.

Regarding **claim 20** as applied to claim 24, AAPA further discloses wherein for an encoding of objects in a traffic route network, the object to be encoded being

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provided with at least one coordinate chain which at least partially lies on traffic routes which are also included in the receiver's database, and which includes characteristic properties of parts of the traffic route network (see page 1 of the applicants' specification, lines 15-22).

Regarding **claim 21** as applied to claim 20, AAPA as modified by Rauhala and Joshi disclose the claimed limitation. Joshi further discloses wherein for a decoding, the coordinate chain of an encoded object is compared to the receiver's database, the at least one coordinate chain is assigned to the similar part of the traffic route network if similarities are present, and the non-assigned parts of the at least one coordinate chain are connected to the traffic routes of the receiver's database according to the geometric position of the assigned part (calculating the SAVC such that the SAVC value is used for map-matching, wherein a low SAVC is used to detect/determine that the sampled road segment is a part of the ground truth road segment, see col. 5, lines 31-47, col. 6, lines 32-57, col. 7, lines 19-29, and col. 8, lines 9-17).

Regarding **claims 25 and 34** as applied to claims 24 and 26, AAPA as modified by Rauhala and Joshi disclose the claimed limitation. Rauhala further discloses wherein a data packet to be transmitted separately includes both location information and descriptive information, and the data packet has assignment information for assigning at least one part of the location information to at least one part of the descriptive information (see col. 5, lines 31-47, col. 6, lines 32-57, col. 7, lines 19-29, and col. 8, lines 9-17).

Regarding **claims 27 and 35** as applied to claims 26 and 34, AAPA as modified by Rauhala and Joshi disclose the claimed limitation. Rauhala further discloses wherein reception occurs via a connection to a device having an internet connection (MCT 10 with transceiver 20, downloading map data from the internet, see fig. 1, col. 3, lines 7-10, 43-57, col. 4, lines 1-23 and lines 52-67).

Regarding **claim 28** as applied to claim 26, AAPA as modified by Rauhala and Joshi disclose the claimed limitation. Rauhala further discloses wherein the location-related information is read in from a transportable storage medium (see fig. 1, col. 3, lines 31-50).

4. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicants' Admitted Prior Art (hereinafter AAPA)** in view of **Rauhala 6,680,919** and **Joshi 6,571,173** as applied to claim 24 above, and further in view of **Hatano 20030083809**.

Regarding **claim 16** as applied to claim 24, AAPA as modified by Rauhala and Joshi disclose the claimed limitation except the location-information being offered on an internet portal of a service provider in return for payment.

Hatano however discloses downloading a map from a web link via the Internet, and paying a charge for the download of the map data (see p.8, [0124]).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hatano by having a communications device access a web page and purchase a map for download to the communications device via the internet, into the system of AAPA as modified by

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Rauhala and Joshi for the benefit of providing the user of the communications device with access to map data of a current location.

Regarding **claim 17** as applied to claim 24, AAPA as modified by Rauhala, Joshi, and Hatano disclose the claimed limitation. Hatano further discloses selecting a link to an Internet page of an information provider to reach the Internet page of a service provider having the location-related information (see p.8, [0124]); and providing payment by the information provider to the service provider for the download of the location-related information (see p.8, [0124]).

Regarding **claim 18** as applied to claim 17, AAPA as modified by Rauhala, Joshi, and Hatano disclose the claimed limitation. Hatano further discloses the payment amount being calculated as a function of a data set of the location-related information (see p.8, [0124]).

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicants' Admitted Prior Art (hereinafter AAPA)** in view of **Rauhala 6,680,919** and **Joshi 6,571,173** as applied to claim 24 above, and further in view of **Espino 7,243,355**.

Regarding **claim 19** as applied to claim 24, AAPA as modified by Rauhala and Joshi disclose the claimed limitation except the provision of the location-related information on the Internet being financed at least partially by advertising.

Espino however discloses provision of the location-related information on the Internet being financed at least partially by advertising (see col. 15, lines 35-45).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Espino into the combination

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of AAPA as modified by Rauhala and Joshi by having an advertiser pay a service provider a fee for advertising information so that the service provider can allow the subscriber of a mobile communication device to download map information at a reduced cost of for free.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLUMIDE T. AJIBADE AKONAI whose telephone number is (571)272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OA

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617